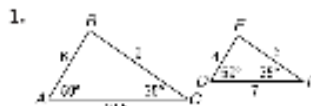


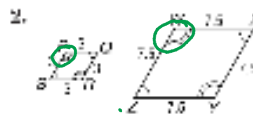
7-2 Skills Practice

Similar Polygons

Determine whether each pair of figures is similar. Justify your answer.



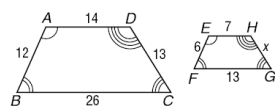
similar
- same angles
- same scale factor
 $\frac{6}{9} = \frac{4}{6} = \frac{10}{15} = \frac{2}{3}$



similar
- same angles
- same scale factor
 $\frac{8}{12} = \frac{12}{18} = \frac{10}{14} = \frac{5}{6}$

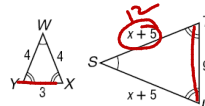
Each pair of polygons is similar. Write a similarity statement, and find x , the measure(s) of the indicated side(s), and the scale factor.

3. \overline{GH}



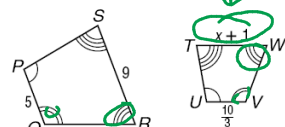
$ADCB \sim EHGF$
 $\frac{14}{7} = \frac{2}{1} = \text{scale factor}$
 $\frac{13}{x} = \frac{2}{1} \Rightarrow 13 = 2x \Rightarrow 6.5 = x$

4. \overline{ST} and \overline{SU}



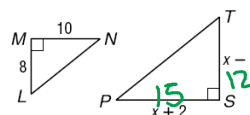
$WXY \sim STU$
 $\frac{3}{9} = \frac{1}{3} = \text{scale factor}$
 $\frac{4}{x+5} = \frac{1}{3} \Rightarrow 12 = x+5 \Rightarrow 7 = x$

5. \overline{WT}



$RQPS \sim WVUT$
 $\frac{10}{3} = \frac{3 \cdot 3 \cdot 3}{5 \cdot 3} = \frac{10}{15} = \frac{2}{3}$
 $\frac{x+1}{9} = \frac{2}{3} \Rightarrow 3x+3=18 \Rightarrow 3x=15 \Rightarrow x=5$

6. \overline{TS} and \overline{SP}



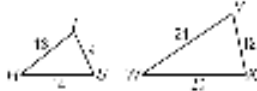
$MNL \sim SPT$
 $\frac{8}{x-1} = \frac{10}{x+2}$
 $8x+16 = 10x-10$
 $-2x = -26 \Rightarrow x=13$

7-3 Skills Practice

Similar Triangles

Determine whether each pair of triangles is similar. Justify your answer.

1.



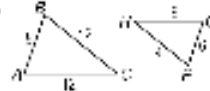
$$\frac{9}{12} = \frac{3}{4}$$

$$\frac{13}{20}$$

$$\frac{14}{21} = \frac{2}{3}$$

NOT

2.

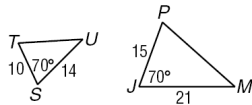


$$\frac{9}{12} = \frac{3}{4}$$

$$\frac{6}{8} = \frac{3}{4}$$

SIMILAR

3.

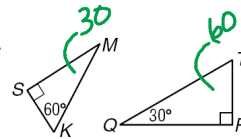


$$\frac{10}{15} = \frac{2}{3}$$

similar

$$\frac{14}{21} = \frac{2}{3}$$

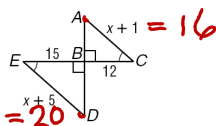
4.



similar

ALGEBRA Identify the similar triangles, and find x and the measures of the indicated sides.

5. \overline{AC} and \overline{ED}



$ABC \sim DBE$

$$\frac{12}{15} = \frac{4}{5}$$

$$\frac{4}{5} = \frac{x+1}{x+5}$$

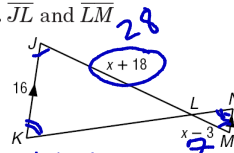
$$4x + 20 = 5x + 5$$

$$4x + 15 = 5x$$

$$-4x \quad -4x$$

$$15 = x$$

6. \overline{JL} and \overline{LM}



$JKL \sim MNL$

$$\frac{16}{4} = \frac{7}{1} = \frac{x+18}{x-3}$$

$$4x - 12 = x + 18$$

$$+12 \quad +12$$

$$4x = x + 30$$

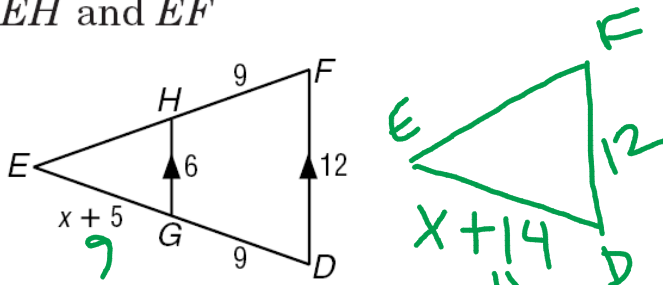
$$-x \quad -x$$

$$3x = 30$$

$$\frac{3x}{3} = \frac{30}{3}$$

$$x = 10$$

7. \overline{EH} and \overline{EF}



$$\frac{6}{12} = \frac{1}{2} SF \quad \triangle$$

$$\frac{1}{2} = \frac{x+5}{x+14}$$

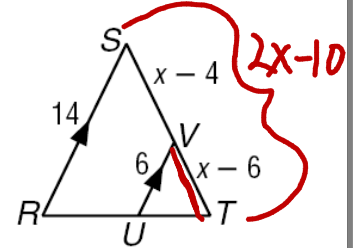
$$x+14 = 2x+10$$

$$x+4 = 2x$$

$$0 = x-12$$

$$12 = x$$

8. \overline{VT} and \overline{ST}



$$\frac{14}{6} = \frac{7}{3}$$

$$\frac{7}{3} = \frac{2x-10}{x-6}$$

$$6x-30 = 7x-42$$

$$6x = 7x-12$$

$$-x = -12$$

$$x = 12$$